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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,251	12/03/2001	Eugene T. Michal	005618.P3212	1313

8791 7590 10/27/2003

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EXAMINER

CHEN, VIVIAN

ART UNIT PAPER NUMBER

1773

DATE MAILED: 10/27/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/005,251

Applicant(s)

MICHAL ET AL.

Examiner

Vivian Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 15-29 and 33 is/are pending in the application.
- 4a) Of the above claim(s) 17, 19 and 21-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15, 16, 18, 20, 25-29 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## **DETAILED ACTION**

1. Claims 1-14, 30-32 have been cancelled by Applicant.

### ***Election/Restrictions***

2. Applicant's election with traverse of species 2 (claim 18) in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the election requirement is too restrictive. This is not found persuasive because the examination of all specifically claimed species would constitute an undue burden.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 17, 19, 21-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 20 recites the limitation "said crosslinkers". There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 15-16, 18, 20, 25-29, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over UDIPI ET AL, in view of:

(a) RUPP (US 5,451,428); or

(b) KOLLURI ET AL (US 5,962,138).

UDIPI ET AL discloses a method of surface treating biomedical materials comprising providing a polymeric substrate such as polyethylene with a surface having acrylic acid functional groups, followed by adhering superoxide dismutase mimic (SODm) compounds having amine groups to the acrylic acid functional groups as recited in claims 15-16, 18, 26, 33. (pages 550, 553) However, the reference does not explicitly disclose the recited plasma polymerization method.

RUPP discloses that it is well known in the art to use plasma polymerization to produce carboxyl groups on polymer surfaces in order to provide good bonding with chemical or

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pharmaceutical agents (lines 13-32, col. 1; columns 4-6). KOLLURI ET AL '138 discloses that it is well known in the art to use plasma polymerization to obtain acrylic acid-functionalized substrates in order to provide good bonding with chemical or pharmaceutical agents (lines 10-20, col 3; lines 37-45, col. 6; Table 1; lines 27-45, col. 10).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use known plasma polymerization methods to modify the surfaces of medical devices as disclosed in RUPP or KOLLURI ET AL '138 in order to provide a highly adherent functionalized substrate for SODm-based coatings as disclosed in UDIPI ET AL while also eliminating the need to incorporate such functional groups into the bulk substrate material with the resultant compromises in physical properties. One of ordinary skill in the art would have selected the type and portions of conventional medical devices (claims 25, 28-29) to be functionalized and treated in order to improve biocompatibility. It would have been obvious to adjust the thickness of the functional group layer (claim 27) depending on the functional group density required for a specific application.

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

KOLLURI ET AL (US 5,723,219) discloses the creation of a functionalized layer by means of plasma polymerization.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (703) 305-3551. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

October 19, 2003



Vivian Chen  
Primary Examiner  
Art Unit 1773